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ABSTRACT

The authors begin by noting that, while much has recently been written about federal interference in higher education, little research and writing has concerned itself with the role of the state in governing, controlling, and supervising higher education institutions. Part 1 of this paper presents, in order, the most important functional relationships between the state and higher education, indicating the authoritative sources relating to each, and citing some of the principal omissions in the research. It concludes with an analysis of the overall research on the major agencies and their interrelationships. The important relationships covered are in the areas of budgeting, program review, planning, and information systems. The relationship between private colleges and universities and the state is also covered. Part 2 describes trends and issues currently confronting higher education that will influence the direction of state roles and functions over the next two decades. These trends affect enrollments, the faculty, the economy, and the society. Part 3 summarizes the major issues and the research needs. A bibliography is included. (Author/IRT)

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Program Report No. 80-B16

THE ROLE OF THE STATE IN THE GOVERNANCE OF HIGHER EDUCATION

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August 1980

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Abstract

This review of higher education issues confronting the states assumes that the primary objectives of policy research are to: (1) define issues, (2) provide information needed to deal with issues, and (3) pose alternative policies and procedures for dealing with issues. A major problem confronting NIE is who defines the issues which need attention and who determines the information and specific projects needed to address specific issues. This listing of issues is based on the review of considerable literature and extensive personal experience of the authors. As such, it inevitably reflects their particular point of view. Thus while this paper describes broad areas in which NIE should conduct policy research, it is not a substitute for NIE having an effective and ongoing process for obtaining the views of state officials concerned with higher education policy issues and researchers who are investigating these issues. Any plans developed by NIE should not be so narrow as to exclude well-designed and timely projects which any plans, no matter how carefully conceived, typically fail to anticipate.

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By and large, state governments have let colleges and universities alone over the greater part of their existence. One does not have to conclude that 19th century state legislatures and governors deliberately decided that higher education should be best left to institutional governing boards, officers, and faculty. Rather, the political and social climate has, until the recent past, been such that governmental restraint, toleration, or perhaps indifference in allowing campuses to manage their own affairs reflected the same factors that allowed similar freedom to other organizations. Whatever the reasons, it is quite apparent now that the conditions of the next two decades will be such that the historic independence of higher education institutions will not continue.

Within the past 15 to 20 years, the states have increasingly exercised controls over both public and private colleges and universities, controls often deplored but systematically investigated only to a very limited degree. A series of investigations should be made to increase understanding of the apparent directions and probable limits to state governmental control over critical aspects of higher education. The historical prerogatives of the institutions could be lost, not so much by design as by the happenstance of transient political and fiscal pressure.

Stephen Bailey (1975, p. 1) perceptively describes relations between the state and higher education as part of a "persistent human paradox. The simultaneous need for structure and for antistructure, for dependence and for autonomy, for involvement and for privacy." The goal of research and study on this subject should be a clearer understanding and awareness of the details

of the opposing forces that underlie the paradox of the interdependence of higher education and the state. As Bailey states, "The public interest would not, in my estimation, be served if the academy were to enjoy an untroubled immunity. Nor could the public interest be served by the academy's being subjected to an intimate surveillance... All this simply says that the precise border between the state and the academy is, and must be kept, fuzzy."

The history of the interactions and relationships between the governments of the several states in the direction and control of higher education is not yet written. The problem for the historian is also the one facing the researcher who makes comparisons over time...for the past is characterized for the most part by absence of recorded controversies and sharp disputes that seem required to illuminate the essentially political power relationships of government and higher education. Historians of the past 20 years or so have dealt only in the most peripheral way with state regulation of higher education even though they may have dealt at length with the power groups involved in the internal governance of institutions. (Rudolph, Hardy, Hofsteder, Veysey, etc.) Glenny and Dalglish (1973) found only isolated instances in the legal as well as political histories of the states when government intervened directly into the governance of institutions. One can almost conclude that except for the Dartmouth College case, the Morrill Acts, the court cases of the University of Michigan and the consolidation of public governing boards after the turn of the century, that state government remained almost aloof from higher education until the 1940s. From that time until this the picture provides a different image and focus.

While recently much has been written and orally lamented about federal interference in higher education, little research and writing has concerned

itself with the role of the state in governing, controlling and supervising the higher institutions. This paper purports in Part I to outline some of the subjects over which the state governments have exercised increasing control, to examine the state agencies involved and their development, and to indicate the kinds of research undertaken to explain these phenomena. Part II explicates some of the trends, the most serious current issues between higher education and the state, and appropriate subjects of policy research. Part III summarizes the major policy issues and future research emphases.

PART I

STATE AGENCIES AND THEIR CONTROLS

Under the federal constitution the states retained the residual power of conducting and controlling education at all levels. State constitutions in turn often provided general language allowing the government to establish colleges and universities and occasionally, in the constitution itself, established a state university and perhaps designated its location. It delegated to the legislature the power to establish the duties and management functions to be carried on by an appointed or elected board of trustees. Such duties could be changed by statute rather than by constitutional amendment, thus placing institutions under direct control of the central agencies of government. A few exceptional states such as Michigan, Minnesota, Colorado, Utah, and California provided in the constitution for the power and duties of the boards of trustees, thus ostensibly placing the institutions outside the power orbit and management control of the state government. Only California and Michigan appear to retain this "pure" constitutional autonomy. State legislative and executive agencies thus can exercise virtually unlimited control over the public colleges and universities in their state. Reasons for the exercise of control are, more often than not, left implicit by state agencies and assumed to derive from general budgetary and administrative powers. Explicit expression of state purpose in the regulation of higher education most often is found where authority is exercised by a state higher education agency to which regulatory or supervisorial power has been delegated.

Prior to a description of these agencies and their activities, and the analysis of research which has been done on their relationships with higher institutions, we note here some of the most important of the very

great number of ways in which states can intervene in higher education, and we would emphasize that all of these are usually exercised to further legitimate state interests. More or less in order of their generally perceived impact on the institutions, state controls over the levels and conditions of financial support and over academic degrees and programs head the list. Direct policy controls very often are exercised over admissions criteria, tuition policy, and institutional size. State controls over professional and other licensures are critical to specific programs. Various direct and indirect personnel controls have an impact, but it is probable that periodic fiscal and program audits conducted for specific purposes are more influential. Finally, there are ever-present rules and regulations controlling the construction of physical facilities and the purchase of most equipment.

The emphasis on staff rather than the politicians for whom they work in describing the state agencies and their activities in relation to higher education is deliberate in this paper. Glenny and Dalglish (1973), Glenny (1976), and Schmidtlein (1977) have all found through extensive research that the staffs of the state agencies involved with higher education have far more direct influence on policy and on specific courses of action than do the governor and legislators in most states. Infrequent exceptions occur when an issue reaches high political salience. A critical part of any study of state relationships with higher education must be recognition of the importance of executive and legislative staffs. Whether one considers broad state policies or the details of implementation of such policies, executive, legislative and state board staff almost always provide the vehicle for overseeing institutional compliance. Both the executive and legislative groups, through the budget formulating and appropriations processes, have a life and death grip on the colleges and universities.

Research on legislatures and on governors generally has been carried out as separate endeavors by the political science field; a substantial literature exists on these subjects but little that relates to control of education. Some literature began appearing about 20 years ago on coordinating agencies for higher education (Glenny 1959) and on state relationships to higher education (Moos and Rourke 1959). The latter work dealt primarily with the "atrocities" of state interference in purely administrative matters such as central purchasing and pre-auditing of expenditures rather than substantive educational issues. Both of these works were the first of their kind. They have been followed over the years by a few scattered large-scale researches and a number of smaller endeavors on a single state or a single state agency (to be cited later in context). Extant are a great many statements, articles and reports with little research to back their conclusions except the direct and vicarious experience of the authors. The latter cannot be dismissed out of hand for they often synthesize ideas derived from research or lend new insights. The most important or influential of these works will also be cited in context.

The remainder of Part I of this paper first presents, in order, the most important functional relationships between the state and higher education indicating the authoritative sources relating to each and citing some of the principal omissions in the research, and then concludes with an analysis of the overall research on the major agencies and their interrelationships.

BUDGETING

The state budget process and content are undoutedly the major means by which state policy is formulated for higher education. Unlike Congress the state substantive committees (e.g., education or higher education) rarely develop and pass mandates affecting substantive issues. Rather by use of budget

language, specific item identification and statement of purpose, by analyst reports, committee notes and statements of leading legislators or the governor, the vast majority of policy matters are dealt with during the budget process. The state budget is the declaration of purpose by the state, setting priorities, approving expansions or cutbacks, and authorizing new programs and activities.

In discussing budgets the difference between procedure and substance provides a useful framework for descriptive purposes.

Procedural. Four procedural areas are mentioned here: budget requests, formulas, special studies, and hearings.

Budget Request. In most states the governor's budget office makes up the forms and develops the guidelines by which budgets are to be submitted by the various state agencies. The request determines the amount and kinds of data and information to be submitted with the budget askings. The data required may vary from year to year or be so voluminous over time that institutions can be overwhelmed in obtaining, organizing, and analyzing them.

Although mentioned by some of the researchers cited below, no research has been done on the use of data by the several state agencies, or whether the data are banked for further use or to determine trends.

Formulas. Virtually every state government uses formulas, rules of thumb, common practice or some means of "objectively" allocating funds to the several colleges and universities. Formulas may be based on elaborate unit-cost data (NCHEMS technology, for example), student/faculty ratios, FTE students, headcounts, or some other means. Some are sophisticated, others very simple and in use for a long time. Formulas do have consequences since many assumptions are built into not only the definition of the formula elements but the elements are given various weights and priorities which result in quite different results for the several institutions. Most increases in an

institutional budget are generated by one or more formulas. Research on formulas as such has been conducted by Meisinger (1976), who examines the political underpinnings of formulas and their life cycle; Miller (1964), in his early study of state budgeting relates some technical aspects of formulas; Layzell (1972) details the elaborate budgeting procedures and formulas in Illinois; Western Interstate Commission on Higher Education (1959) provides a descriptive survey of "yardsticks and formulas"; Stumph (1970) makes some comparisons among types of formulas and their level of sophistication; and Gross (1973) surveyed the states for the types of formulas in use. The most important of these works are Miller, Gross, and Meisinger. Many articles can be found in journals and association procedings on formulas and their use within subsystems of institutions or within a university.

Research on formulas in the 1980s should focus on those which are or can be developed for reducing budgets as enrollment or financial resources decline in a state. Also some comparisons are needed to determine if the elaborate unit-cost type formulas are any more effective than the simple ones. The focus of such research might be on differential effects of various formulas on institutions and specific categories of activities. A third dimension is the degree to which formulas which generate budgets are also used by the state in making the institutions accountable in terms of the allocations derived from the formula.

Hearings. Hearings are conducted in most states by the governor's budget office, usually in nonpublic sessions, by the legislative appropriations committees and, prior to these, by the state's higher-education agency. Hearings are especially important in alerting institutional leadership to the concerns of legislative committee members, the governor and state higher

education agency officials. A governor may talk directly with the president of an institution to settle certain matters of great controversy, reaching a "gentlemen's agreement" wich is rarely put into writing. Legislators do much the same thing but in addition may write up the items at issue, thus indicating the committee's intent in approving specific appropriation items. A variety of minutes, memos, letters and "bills of particulars" may issue from the committee after a hearing, none of which have legal import but all of which, if misunderstood or ignored, may have financial repercussions during the succeeding budget cycle.

Research on higher education in relation to hearings is scarce although much of the control exercised by the legislature is done through the hearing process with the threat of follow-up for acccuntability. Glenny (1959), Miller (1964), and Berdahl (1971) deal with the process in part while considering the role of coordinating boards or the general budgeting process. Glenny and Dalglish (1973) go into more detail especially since this powerful informal method of control affects the constitutionally protected university as much as those statutorily created. The most thorough analyses were made in the three-year study by the Center for Research and Development in Higher Education at Berkeley from 1973 to 1976. On hearings, see especially Glenny (1976) and Schmidtlein and Glenny (1977).

In the 1980s, research should be directed to the changing role of legislative committees, and their hearings, as financial constraints increase. Legislators may become more cautious in direct control of institutions because of the uncertain consequences of cutting core programs. On the other hand, they may make issues of eliminating whole schools, programs, or even campuses instead of miscellaneous deductions desired by the institutions. With

increasing numbers and professionalization of state staffs, hearings could result in much more sophisticated debate and consequential understandings (perhaps for later accountability).

Special Studies. Both the executive budget office and the several legislative staff agencies dealing with the budget may, between budget cycles, conduct special studies of subjects about which they are uninformed or troubled. These studies may be on a single subject such as tuition, or building standards, or they may include an entire review of a junior college system and its effectiveness. The studies may be generated by politicians or state-level staffs. The results may subsequently bear on various financing aspects since most such studies seek efficiency and effectiveness as goals.

Special studies are of recent origin. The nationwide survey of study subjects made by Barak and Berdahl (1977) currently reveals the most about this subject. It followed on the work of Glenny et al (1975), Glenny (1976), and Schmidtlein and Glenny (1977) in their 17-state study of budgeting practices.

Now research is needed on the actual impact of such studies on budgets and on operational activity in colleges and universities which were studied. Periodic surveys also should be conducted to determine if higher education gets an increasing or decreasing share of attention and to detect the shifting interests of the state.

Substantive. The following substantive matters relating to budgeting are only three in number: 1) faculty salaries, 2) credit hour and cost computations, and 3) legislative appropriation of other than state funds.

Faculty Salaries. Faculty salaries constitute the largest single expenditure for higher education. The Carnegie Commission (1973) suggests that public control properly includes setting the general level of salaries,

but that the determination of specific salaries is an attribute of institutional independence. (In the recent past, Florida and North Carolina have set top administrative salaries of higher institutions, a governing board duty in most states.) The legislature commonly specifies the use or distribution of salary funds. Kauffman (1977) noted some of the abuses, including the placing of ceilings on specific categories, of eliminating merit increases, of insistence that "cost-of-living" increases be made across-the-board. Governing board power is reduced by such legislative or at times gubernatorial interventions.

The major research (survey) done on salaries has been the annual AAUP determination of average salary levels by rank and type of institution. Few analyses outside of specific institutions or states have been done. Data for determining the comparative bases and the trends in salary setting, ceilings, merit increases, fringe benefits, and other adjustments have not been carefully collected or annotated. Since 1968, the AAUP reports that the real income of faculties has dropped several percentage points and much more than other professions. At the moment, policy makers are not even apprised of the data and analyses that could bring about positive changes in that condition.

Credit Hours and Costs. A student-credit-hour is "the instructional unit for expressing quantitatively the time required for satisfactory mastery of a course of one class hour per week per term" (Heffernan, 1973). Credit hours are, in one form or another, the currency of the higher educational realm. They measure quantity and quality and apply to the full range of higher-education offerings. Except for the simple student/faculty ratio, the most used method of state agencies in determining need for additional faculty (or reduction) is the number of student-credit-hours taught. A numerical goal is set for each level of instruction per average faculty member, then aggregated

through department and school levels up to the institution as a whole. The total number is multiplied by an agreed-upon average faculty salary to determine the amount for the budget request. Just as no firm conclusions have been reached about the effectiveness of instruction according to class size (McKeachie, 1980, to the contrary not withstanding), so it is with the number of student-credit-hours which a faculty member can be expected to teach. The state through its formulas may inch the number up year after year almost without the knowledge of faculty members.

We are unaware of any major research (other than some articles) on the concept of the student-credit-hour and its use or misuse for staffing and budgeting.

Appropriating Other than State Funds. Anguished cries have gone up in several states as legislatures have begun to appropriate federal and foundation grants to institutions and, in some states, funds realized from university related foundations and endowments. Such interventions are claimed to interfere with institutional and even academic autonomy. We know such practices exist and that the legislature can accept or reject outside funding and determine the use of some institutional funds such as tuitions, but no solid research shows the actual effects of such appropriation practices on the activities of institutions. The Federal Advisory Commission on Intergovernmental Relations (1977) suggested model legislation to achieve state appropriation of federal funds, with higher education funds made optional, but it does not appear that any state which has considered the law has exempted higher education institutions (McNamara, 1977). Research on this subject is needed.

PROGRAM REVIEW

Few areas of state educational policy are more controversial than that of the role of state governmental agencies in the review, approval, modification,

and termination of instructional programs. The problem arises from the essential continuity which relates single courses to ultimate degrees. The Carnegie Commission (1971) states it to be appropriate for the state to "exercise influence and even control" over "major new endeavors" and "effective use of resources" but also states that courses and course content belong in the hands of the faculties. These extremes, to which most legislators as well as educators would agree, leave a great deal of room for differences of opinion between the state and institutions. Unquestionably, on this subject Barak and Berdahl (1977) have produced the most definitive work. They note that "distinctions between program, major, areas of emphasis, concentration, option and specialty were frequently...vague."

Agency Reviews. State higher education agency, executive budget office, and legislative staff all review new academic programs in some way with the state higher education agency conducting the most thorough examination of need, costs, long-term consequences, equity among institutions and anticipated quality. These reviews can be quite onerous to an institution in terms of its providing backup data and information. Tension arises because the review takes place after the several internal institutional review committees have already screened, modified, and adjusted the program to achieve what campus leaders believe necessary. In most states the higher-education agency has life and death control over new programs. In the remaining states few appeals from negative recommendations succeed in the legislature.

The executive budget agency receives a new program only as part of the budget request. This is true especially in those states where program control lies with the higher-education agency. The budget staff increasingly consists of well-trained professional persons with graduate degrees in business,

economics, public policy and administration. Their reviews of programs per se are fairly perfunctory with focus on costs and productivity rather than the worth of the program itself. Usually it is not a matter of approval or disapproval but whether the program fits within budget limits. New, large, or expensive programs are much more likely to gain staff attention. A new medical school, an off-campus learning center, or a new campus would obviously lead to a careful review and probably much contact with the higher-education agency and the concerned institution.

Legislative reviews may occur in the joint analyst's office or by the staffs of the appropriation committees. These staffs are usually young and, though improving in quality, are not as well trained as executive or higher-education agency staff. Certainly few members of such staffs are trained to evaluate the worth of academic programs. Hence, some of the bitterest experiences of institutions are occurring with legislative committees and staffs. Eulau & Quinley (1970), Glenny (1976), and Barak and Berdahl (1977) would see evaluation by such staffs as an encroachment on academic prerogatives. Yet legislative staffs are increasing in numbers and evaluation appeals to them as a means of getting to the heart of institutional affairs. Most researchers conclude that legislative committees are obliged to assure that institutions and state higher-education agencies have procedures, both formally and in operation, for evaluation of program quality but should not be involved with qualitative evaluation.

Research Done. Research which deals with program review, in addition to that cited above, primarily examines the processes used and the goals to be achieved. Researchers who write on coordinating agencies pay particular attention to program review (Glenny, 1959; Berdahl, 1971; Palola et al, 1970;

Glenny et al, 1971; Halstead, 1974 as examples). In addition, NCHEMS developed a program classification structure which is commonly used (with local variations) throughout the nation (Collier, 1976). The Education Commission of the States provides an annual update of the functions of state higher-education agencies including program review (ECS 1977, 1978, 1979). It has published an analytic book, Coordination or Chaos and provides a monthly semijournal with each issue devoted to a particular higher-education subject. The Citizens Conference on State Legislatures (1975) studied four states and functions of legislatures including higher education. The Citizens Conference also published a critical study of the 50 American legislatures (1971), which, in part, comments on the quality of staffs and committees. The Carnegie Commission and the later Carnegie Council commented on the subject at some length (1971, 1973, 1976). Bowen and Glenny (1976) researched the types of reductions made in programs during periods of fiscal stringency; and Bowen, Edelstein and Medsker (1977) identified the decision-makers and their influence in the approval of non-traditional programs. Schmidtlein and Glenny (1977) examined the political and state interorganizational relationships in program approval.

Research Needs. The research gaps have been largely closed by Barak and Berdahl (1977) and Berdahl (1975), but program review is an enigmatic problem never quite solved in terms of who among the various state agencies and institutions should have either the most influence or final approval. Continuing updates of the processes and procedures used would be valuable to all policy makers as would the trends in the increasing number of additional review agencies and the qualifications of all staffs to review academic (and research) programs among the 50 states. Legislatures and also some governors

have set up separate program performance audit agencies which should be monitored for their evaluative interventions and for program conduct and financial support of programs.

PLANNING

A major function of almost every coordinating agency established after 1955 was to conduct continuous or periodic long-range planning for higher education. While the original statutes often require plans only for public institutions, recent amendments added most of post-secondary education as recognized by the federal government: that is, accredited institutions, public, private, and proprietary. Other agencies of the state make very little or no contributions to state planning for higher education except in a few states (e.g. Nebraska and Pennsylvania) which still have a separate 1202 commission. These commissions were originally authorized and funded by the federal government to provide state planning for postsecondary education under Title XII of the Higher Education Act of 1965 as amended in 1972. Hence either the coordinating agency or the statewide governing board develops and implements the master plans or the special subject-area plans which have become commonplace in the 1970s. Master plans, very popular in the 1950s and 1960s, have largely given way to amendments through special studies. Elsewhere over time studies in the aggregate constitute the plan. Widespread participation by institutional administrators, faculties, students, and citizens characterizes most processes for developing a plan. Consulting agencies, citizen commissions, and legislative committees also perform this task in some states. Coordinating agencies are reported by Berdahl (1971) and Glenny (1959, 1971, 1976) as having the greater interest and success in master planning than the statewide governing boards, although it now appears that Wisconsin, with such a board, may

be a leader in statewide planning. The shift to area studies instead of complete master plans invites executive and legislative staffs to compete with the state higher-education agency in such studies, often confusing legislators and governors with different sets of data obtained from the institutions and different policy conclusions.

In the 17-state study of Glenny et al, planning documents were not found to directly influence budget decisions of the executive and legislative branches unless the state education agency used the master plan for analyzing the budget and its congruence to planned new programs, centers, and campuses. Nevertheless, staffs of the two political arms of government insist that they want to make decisions within the broader long-range context of a master plan rather than to look only at the current budget cycle. Heaphey (1975) claims legislatures take a short range perspective because they cannot "foresee their interests in the long-run."

Much overlap and duplication now occurs among state agencies with respect to special studies, requirements for short- or long-range plans and the agencies make exceptional demands on the institutions for a variety of data on different forms and using definitions not common to the data base of the institutions. Much misunderstanding arises out of this practice.

Research Done. Research done on planning for higher education at the state level concerns primarily the same persons, mentioned previously, who have written on state coordinations: Berdahl, Palola, Glenny, and Halstead. An excellent annotated bibliography on planning for higher education was edited by Halstead in 1979. Millard (1976) writes a description of coordinating agencies and their roles and functions in relation to federal programs.

Research Needs. The gaps in research on planning include need to assess: 1) the actual use of state plans in establishing policy that holds up in implementation; 2) the processes used which provide the most effective plans; 3) the means for using plans to set budget priorities by all state agencies; and 4) the duplication and competition among state agencies in conducting special studies which result in confusion for the policy makers.

INFORMATION SYSTEMS

In most states the state higher-education agency designs and operates the major data collection systems for higher education. Neither of the political agencies are likely to participate in the design or be canvassed for their information needs; they rely for their information most heavily on the budget request document. When information is not available, the executive budget office usually, though not always, turns to the higher education agency, which already has the information or is able to assemble it from its own sources without making new demands on campuses. Legislative staffs also rely heavily on the coordinating agency data base, but more often than the executive staff choose to gather information directly from campuses, or even from individuals far down in the campus hierarchy. With the coordinating agency continuously demanding information, and the executive and legislative staff members individually calling for special items, institutions sorely need internal coordination of their information resources. In many institutions confusion reigns over what has been reported, to whom, and with what assumptions in mind. Because data are often defined differently or aggregated in unusual ways for specific purposes of state budget staffs, a campus may report, for example, on enrollments or the number of faculty in three or more different ways -- only to be accused later of inconsistent reporting, deception, or outright incompetence

as the state staffs clash with each other over a major policy issue. Institutions try to protect their self-interests in reporting data, but much of the tension between higher education and state government arises from the latter's naivete about higher-education information, its definitions, and its uses and abuses. Political staffs may specify their information needs, receive it as requested, and then discover that another staff has an entirely different set of figures or a different quick-and-simple answer on the same problem. All staffs become frustrated and enervated as they are forced to concentrate on data validity rather than policy.

Despite rhetoric to the contrary over the past ten years, Glenny et al found that statewide information systems are generally meager and fragmented, each agency eager to improve its own information capacity through independent studies.

Research Done. HEGIS and budgetary data are those most commonly used by state agencies but some states suspect the validity of those data and establish fairly elaborate information systems more specifically directed to state planning and policy making. Progress is currently being made in research on this subject. The Education Commission of the States, the State Higher Education Executive Officers Association, in cooperation with the National Center for Higher Education Management Systems have been endeavoring to establish one or more models of state information systems by using a number of states in a pilot project. If the technicians in this work do not ignore the extent that the policy makers are overwhelmed with computer analyses, the results of this major effort should be of great value to all state-level agencies. These agencies also publish annually a state post-secondary education profiles handbook. NCHEMS has been the key agency during the past dozen years in developing the items and definitions for data systems. Contributions of other researchers

are not of great significance in comparison. Purves and Glenny (1976) reported on information systems and their uses in 17 states.

Research Needs. The gaps in research up to this time have been the need to: 1) determine what total information needs to be routinely gathered, 2) agree on the underlying assumptions for use of the data system, 3) agree on the definitions of the various data elements, 4) determine the frequency and continuity of reporting particular elements, 5) agree on functional and program classifications, and 6) try to create a single data base of common use to each of the state-level agencies.

NONPUBLIC COLLEGES AND UNIVERSITIES AND THE STATE

In only a few states (New York, Illinois, California, Pennsylvania, Massachusetts) do governments provide funds indirectly or directly to non-public institutions exceeding more than a few percentage points of the total higher education appropriation. Nevertheless, in the states noted and others the amounts received by some nonpublic colleges and universities often furnishes the difference in dollars between well-being and the poverty line.

Research Done. This paper deals primarily with the public sector of higher education but during the 1980s a number of issues will be debated which appear vital to the nonpublic institutions. Chronister (1978) surveyed the states to determine to what extent the nonpublic institutions were represented on statewide planning boards and on the many committees and task forces which normally develop the documentation for state master plans. His findings emphasize the need for close and willing cooperation between the institutions and their state association and the agencies of state government. The quality of these relationships appears much more important than the mere number of representatives or that representatives of nonpublic institutions are board members.

Jonsen (1980) delineates some of the principal issues to arise between the state and the nonpublic colleges and universities. He does not entirely exhaust the subject but his paper presents a sound summary -- the basis for consideration of policy-related research proposals.

Jonsen states that the primary issues revolve around the state planning process. One such issue is the review of new and existing programs, a major subject of contention with public institutions and even more likely to be considered an intrusion on autonomy by the nonpublic ones. Other planning issues relate to competition for adult students and the closure of institutions as enrollments fall. More state funding of the nonpublics will greatly increase efforts to coordinate the publics and the nonpublic in terms of mission and role as well as specific programs of instruction.

Another planning issue relates to the means of distributing funds to the nonpublics. Should it be done indirectly, as is the common practice now, through grants to students, or through categorical support of particular programs, or through contracts with the state agency or with public institutions in the same geographical area, or by means of direct grants related to the number of instate students enrolled. Student aids are provided in every state with a sizable nonpublic sector, nine states grant funds for general purposes, and an undetermined number of states make contracts or provide aid through categorical programs.

Research Needs. The major issues, even those for planning, arise out of the amount and level of funding to be provided by the state. Jonsen states that the central policy questions are: "What should the maximum award level be, and, if all 'needy' students cannot be aided, how should awards be rationed?" (1980, p. 10). The more critical issue bears on the amount of tuition to be

charged the public institutions and the relationship of student grant levels to that tuition. The nonpublics want to close the gap between the level of tuition in the public segment and the maximum amount of student awards in order to gain a more favorable competitive position. The publics wish to keep tuition low for much the same reason but also because other issues such as access, affirmative action and total funding for higher education also enter the equation.

With declining enrollments and with increasing pressure to reduce appropriations for all purposes, nonpublic institutions will find state governments less easy to deal with than in the recent past. Nonpublic institutions will, individually and collectively through their state associations, improve their organizational capacity to provide information and to deal with state demands for increased accountability for the expenditure of state funds. They are likely to be drawn, though reluctantly, ever more surely into the coordinated network of state higher education. The monitoring of such trends and research on their impact would have much usefulness for state policy makers.

RESEARCH ON MAJOR STATE AGENCIES AND THEIR INTERRELATIONSHIPS

As previously indicated, the policy role of the state in relation to public higher education virtually has no legal end. Only a few universities have powers given to them in the constitution, with all the remainder and all public colleges subject to the whims of statutory change. Technically the state can abolish or establish an institution, can change the composition, membership, and powers of its governing board, change institutional missions, approve or disapprove programs or courses as well as research projects, or take thousands of other actions which indicate its real power to control the state

public higher education system. On the following page a chart lists a few of the more important subjects over which states exercise one degree of control or another.

Short History. Traditionally, the legislature held most of the state power to control, then from 1910 the reforms of state government gave more and more power to the chief executive of the state. In most states the governor puts together the budget, organizes and supervises all state operations and functions, and suggests policy to the legislature. By the 1950s, the legislature began a fight to regain some of its power lost to the governor and his staffs. They did so by creating analytic offices, staffing appropriations and other committees and conducting technical reviews of the governor's operations. While this intense power struggle slowly developed, the coordinating agency for higher education was authorized to review higher education budgets, to plan, and to approve new programs and a variety of other lesser duties. This agency is unique in state government for it stands between the institutions and their governing boards and the two political arms of the government. The process of reviewing budgets and making decisions among programs, degrees, and services which each college and university in the state wished to undertake became too much for the legislature, just as had the regulation of utility companies in an earlier period. The higher education coordinating agency stands (without a constituency) between the higher institutions and the two jealously competing branches of government.

Budget Relationships. Higher education is usually the last major state service to be given an appropriation by the legislature. The proportion of funds over which the legislature and governor have discretionary control is very limited. After meeting federal matching requirements for health,

Potential Areas of State Policy for Higher Education and Summary Indications of Selected, Major Implications of Such Policy Areas

1. Governance, coordination, and administration	States may establish the number, type, and location of campuses. They may organize campuses through governing and coordinating structures to assure implementation of state policy. They may formulate and enforce state plans.
2. Access	States may fix the numbers, distribution, and qualifications of students. They may determine the amount and conditions of student financial aid, and establish procedures to assure equitable access and equal opportunity.
3. Instruction	States may establish criteria or procedures for determination of the adequacy of new and existing academic programs. They may establish procedures to assure geographically equitable distribution of basic programs, and avoidance of unnecessary duplication.
4. Research	States may establish research programs for specific purposes, may require investigation of issues relevant to the state, and may condition the performance of research funded from other than state funds.
5. Public Service	States may require training for perceived state manpower needs, both initial entry training and continuing compulsory training thereafter.
6. General Support	States may determine levels of support using formulas or guidelines. They may determine both general salary levels and distribution of salary increments. They may use budgetary procedures or funding levels to implement or enforce policy positions in virtually all areas of higher education.
7. Accountability	States may require adherence to standard accounting procedures, may conduct pre-audits and postaudits of accounts. They may establish procedures for purchasing and construction. They may conduct performance or program audits, and may establish standards for faculty activity.

welfare, highways, and dozens of other programs, and the public schools have been funded by a preset formula, most state governments have only about 20 to 40 percent of their state general revenues to "play" with in the budget. Higher education takes from about 9 percent to 35 percent of state general revenue, depending on the state (Glenny et al, 1975), and are by far the largest and most complex of the agencies to be funded from these discretionary monies. Both branches of government review higher institutions more and more carefully in order to make them as efficient as possible so that funds may be freed for other new services and expansions. The intensity of intervention is increasing and the number of subjects of concern increase by the year.

Research Done. The research which has been done relating higher education to the state government has not been extensive although thousands of rhetorical essays have been written on it.

Major researches examining state agencies and their interrelationships to higher education in a dozen or more states have been conducted by the following authors: Moos and Rourke (1959) which focused on administrative controls rather than academic substantive; Glenny (1959) the first work on coordinating agencies, their functions and roles as they relate to government and to the institutions in 13 states; Brumbauch (1963) a short essay on results of examining 15 Southern states and their coordinating structures; Martorana and Hollis (1960) from a national survey establish a classification of boards and cite their functions; Palola, Lehmann, and Blischke (1970) a survey of planning practices indicating some of the fundamental weaknesses and strengths; Eulau, Heinz and Quinley (1970) a survey of attitudes of legislative and executive staff members and politicians toward higher education; Berdahl (1971) research in 19 states using the

topics of Glenny's book of 1959 but adding much valuable material on federal relationships, private colleges and other matters...the most recent book directed solely at coordinating agencies; Glenny (1976) and Schmidtlein and Glenny (1977) from a 17-state budgeting process study examine the roles of each state agency and suggest a more rational distribution of duties and means for stronger interorganizational relationships.

A number of books partially based on research and partially on other factors make important contributions to understanding the state role with higher education: McConnell (1962) develops a pattern for state higher education systems, raising some fundamental questions about roles and relationships; Carnegie Commission on Higher Education (1971, 1973, and 1976) published three books dealing with many aspects of higher education and the state, delineating model roles which each should play; Williams (1967) provides the legal bases for coordinating boards in 39 states; Pliner (1966), using secondary sources, describes various coordinating arrangements in the states.

The following authors among others (mostly dissertations) have dealt with coordination in a single state: Paltridge (1966) in California, (1968) in Wisconsin; Coons (1968) in California. Collections of essays or papers presented at conferences which provide insights into the coordinative processes: Wilson (1965), Southern Regional Education Board (1970), Minter (1966), Knorr (1965). And finally two books which offer guidelines for state coordination and planning: Glenny and Weathersby (1971) and Glenny, Berdahl, Palola and Paltridge (1971).

The agency which currently provides the most information and sets of guidelines to the states in the planning, coordination, and financing of higher education is the Education Commission of the States. Millard, Berve, Folger

and others on its staff cooperatively produce a number of serial publications as well as special studies on the states and higher education. Until 1976, The Center for Research and Development in Higher Education at Berkeley conducted the most research in this area. (The Center no longer conducts policy research.)

Other research agencies which do some work on this subject are the higher education centers at the University of Michigan, Penn State University, Buffalo University (SUNY), The University of Arizona, Arizona State University, University of Florida, Florida State University, University of Georgia, University of California at Los Angeles, and the Graduate School of Education at Berkeley.

Research Needs. As noted in the above citations of literature, much work has been done in general on the state agencies and higher education but serious and important omissions exist:

1. Research on the specific impact that each budget-review agency has on program approval and final content, and the conditions that make the impact possible.
2. Research on the specific impact that each agency has on the budgets of institutions and the conditions which make that possible.
3. Research on the impact which state budget practices have on the internal operations of institutions, on their internal organization, and the effectiveness of state-mandated activities as opposed to those initiated internally by the institution.
4. On the relationship of partisanship or special group interests to the legislative process for resolving higher education issues.
5. The coordination of state programs with federal programs on such subjects as affirmative action, student aids, the handicapped, etc.

6. Basis for institutional gudelines relating to the reductions in enrollments and budgets which will face the majority of all institutions during the 1980s.
7. Planning mechanisms which are effective for the several state agencies and for institutions.
8. The relationship of the formal state system of higher education to all other kinds of postsecondary education, proprietary, industrial, governmental, business, and social organizations.

PART II

TRENDS AND ISSUES

CONFRONTING STATE GOVERNANCE OF HIGHER EDUCATION

Part I described the status of research on the roles and functions of state agencies in higher education. Part II describes the trends and issues currently confronting higher education which will influence the direction of state roles and functions over the next two decades. Trends in all of the areas described will alter rapidly during the 1980s, with significant implications for state policy. Research will be needed to define more precisely the trends and issues facing higher education and to illuminate their policy implications.

ENROLLMENT TRENDS

The Carnegie Council on Policy Studies in Higher Education (1980) estimates a decline in higher education enrollments over the next 20 years ranging from 5 to 15 percent. Other estimates are more pessimistic and project the actual number of 18 to 22-year-olds will be 25 percent fewer in 1993 than in 1980.

Birth Decline. The peak year for births was 1957, with about 4.3 million live births. By 1970, live births were down to 3.7 million and in 1975 were only 3.1 million (ACE, 1977a No. 1, 77.28, 77.29). Furthermore, birth expectations of women of childbearing age have continued to decline. In 1967, only 39 percent of wives in the 18-39 age group expected to have two or fewer children while in 1975, only 59 percent expected that few (ACE 1977a, No. 1, 77.25). It will be 18 years before any birth rate increases can translate into postsecondary education enrollments.

Overall Participation. Total participation, or enrollment rates have shown a steady increase between 1960 and 1977. Of the total U.S. population,

2.1 percent were enrolled in 1960 and 5.2 percent in 1965 (NCES, 1977a; ACE, 1977a, No. 1, 77.6). In recent years, the pattern of participation in higher education has begun to change. The ratio of new freshmen to high-school graduates has not increased since 1970 (ACE, 1976, No. 2).

Part-Time Enrollments. In 1970, 32 percent of all students nationally were part-time and in 1975, about 35 percent (NCES 1976-Table 1; NCES, 1971-Table 16; ACE, 1977a, No. 1, 77.5).

Male and Female Enrollments. Between 1970 and 1975, total female enrollments increased by 43 percent while male enrollments increased by only 22 percent (NCES, 1977b-Table 1). (However, the percent of males graduating from high school and entering college has dropped 9 percentage points since 1968.) If the female rate were as high as the male rate for the total population, an additional 1.4 million students would be enrolled.

Minority Group Enrollments. Minority student enrollments increased significantly from 737,000 in 1972 to about 815,000 in 1974, an 11 percent increase. However, Black enrollments dropped by almost 2 percentage points in the fall of 1979. In both 1972 and 1974, Blacks constituted 11 percent of the U.S. population but only 8 and 9 percent of the full-time enrollments in those years, respectively (ACE, 1977a, No. 1, 77.5; ACE, 1976, No. 1, 76.92).

Enrollments Among Segments. Significant shifts have occurred in the proportion of the total number of students who attend two-year and independent institutions. In 1965, 33 percent of all students were enrolled in private institutions, declining to only 12 percent by 1975, although independent sector enrollments had substantially increased (NCES, 1977b-Table 1). This decreasing proportion of students enrolled in private institutions occurred concurrently with the rapid growth of two-year, primarily public, community

colleges. In 1965, 20 percent of all students were enrolled in two-year institutions, by 1975, 35 percent (NCES, 1977a-Table 3.03).

Noncollegiate Institution Enrollments. Enrollments in noncollegiate institutions comprise an increasingly significant proportion of all postsecondary enrollments. Estimates for such enrollments range from 7 to 13 million.

FACULTY TRENDS

The rapid decrease in enrollments follows two decades of increases in the annual number of doctoral degrees conferred by universities. Historically, higher education was the major source of employment for most doctorates, almost the only significant employer in fields such as the humanities (Carnegie, 1980). The decline in enrollments together with this larger supply of potential faculty has already had a major impact on employment opportunities. The Carnegie Council (1980) notes:

> The labor market for faculty members has virtually collapsed in all but a few still-active fields. At the peak of its activity, additions to the professoriate were being made at the rate of 20,000 and more per year. The current level of net additions is about zero and will remain at that level or below it for much of the rest of this century.

Should financial stringency increase student/faculty ratios, the impact could be even greater.

The over supply of doctorates has had a depressing effect on faculty salaries. From 1960 to 1965 the real income of faculty increased by 21.6 percent (Carnegie Council, 1980). From 1975 to 1979 their real income declined by 8.1 percent. The costs to institutions for full-time faculty will increase over the next 20 years because of their increasing average age and growing concentration in higher ranks. Increasing tenure ratios will restrict institutional flexibility to redeploy resources. Institutions increasingly

employ part-time faculty and make contractual arrangements to reduce the high costs of tenured faculty. However, part-time faculty are increasingly seeking salary parity with those teaching full-time.

ECONOMIC TRENDS

The country is undergoing important changes in the characteristics of its economy.

Inflation. Since the late 1960s inflation has remained consistently high. Between 1967 and 1977, the Consumer Price Index increased by about 84 percent and in the last two years by another 20 percent. Average weekly earnings also increased substantially but have not kept pace with inflation.

Growing Competition for Funds. Competition for funds continues to grow. As a percent of Gross National Product (GNP), expenditures for all levels of education grew substantially between the mid-1950s and the late 1960s, but have been stable since. The percentage of the GNP spent for higher education was 1.0 percent in 1955, 2.7 percent in 1970, and 2.7 percent in 1976 (ACE, 1977a, No. 1, 77.58). In terms of total governmental expenditures, higher education received increasing proportions until 1970, but has received a lower percentage since. Higher education received 3.7 percent in 1970, and 5.6 percent in 1975. In contrast, the proportion of total governmental expenditures devoted to social insurance and public aid have increased significantly and continue to do so (NCES, 1977a-Table 6.02). State general revenues for higher education dropped from 15 percent in 1969 to 14 percent in 1979.

Cost of Higher Education. Overall, during the past ten years, the costs of higher education have risen somewhat faster than the general cost of living. However, in recent years the higher education price index and consumer price index have risen at similar rates. Between 1971 and 1976, the HEPI (Higher Education Price Index) rose 47 percent while the CPI rose 48 percent.

To a large extent, the recent relative slowing in higher education costs results from higher education salaries lagging behind inflation. Professional salaries increased only by 33 percent since 1971. On the other hand, costs of supplies and materials have increased by 64 percent; books and periodicals by 85 percent; and, utilities by 125 percent (NIE, 1977-Table B and Table 1).

Productivity. Higher education, like other service industries, historically has not been able to increase its productivity (O'Neil, 1971). Developments such as educational television and computer-assisted instruction have yet to make a significant impact on educational productivity.

Shifting Sources of Revenues. The role of state and local governments in providing funding directly to institutions has grown while that of the federal government has declined. The federal focus has shifted to providing aid directly to students, a development which has only partially compensated for its diminishing role in directly aiding institutions since much of student aid does not get into the coffers of colleges and universities. Between FY 1966 and FY 1974, federal funds decreased as a proportion of Education and General revenues from 25.8 percent to 17.6 percent (ACE, 1977a, No.1, 77.60). However, during the period FY 1965-1975, federal financial aid to students increased from $454 million to $6,913 million, an increase of over 1,400 percent (Brookings, unpublished data).

SOCIAL TRENDS

The social priority which is accorded higher education has dropped. Discussions of over-educating persons are prevalent, politicians less frequently campaign on the basis of what they will do for higher education, state agencies increasingly demand more accountability and initiate institutional evaluations and audits. Surveys of state budget officers show higher education's priority

has declined and that they expect it to decline even further in future years (Center for Research and Development in Higher Education, unpublished data). There appear to be several reasons for the apparent decline in public support.

Economic Benefits of Higher Education. The economic value of higher education is increasingly questioned. Studies show decreasing rates of return for a college degree and the job market for college graduates in traditional degree-level positions has not been good for several years.

Production of Advanced Degrees. Studies repeatedly show that in many fields, universities produce more individuals with advanced degrees than required by the job market. For example, a recent study indicated that, in total, about three times as many Ph.D.'s as are required for traditional places of employment would be produced between 1972 and 1985 (ACE, 1977, No. 1, 77.55).

THE IMPACT OF TRENDS ON HIGHER EDUCATION

The trends relating to student numbers, participation rates in college attendance, faculty availability and pay, general economic welfare and several other social trends -- each separately or in combination -- have great potential for helping or hindering the aspirations of leaders of higher education and the quality and quantity of education to be offered the young people of the nation. Most of these trends pose serious dilemmas to state policy makers.

Enrollment Trends. The major increases in the revenues devoted to higher education in the past have resulted from increases in enrollments. Total current fund expenditures per FTE student adjusted for inflation was the same in 1979 as in 1969 (Ruyle and Glenny, 1979). Consequently, the decreasing number of high-school graduates will have a major impact on the amount of state revenues devoted to higher education.

Two dilemmas will confront higher education as enrollment driven

revenues for many institutions level and decline. First, new bases for justifying budget increases will be demanded by institutional officers. Second, migration and population growth patterns will result in some campuses growing, some remaining stable, and others contracting perhaps very substantially, often within the same state.

As enrollment growth serves less well as a basis for budget increases, budgets increases will attempt to be justified by providing new services or making qualitative improvements. Higher education already is beginning to emulate the example of elementary/secondary education by seeking funds for special programs to assist particular student populations, such as the handicapped and culturally or educationally deprived.

Changing migration and population growth patterns will create particularly difficult dilemmas. Seven states are expected to have a 15 percent or greater decline in the number of 18-year-olds between 1978 and 1985. Fifteen additional states will experience enrollment growths of 10 percent or more during this time (ACE, 1977b). Some states, consequently, will be faced with substantial cutbacks in at least some of their institutions. These differing circumstances will complicate efforts to provide federal support for higher education. The variability in circumstances will make it difficult to design consistent, equitable nationwide rationales for support of higher education. Therefore, the current trend toward federal dollars providing a decreasing share of revenues is likely to continue. Within states, different enrollment patterns will present an even more difficult problem. States will be faced with demands for new programs and facilities at growing campuses, while on others buildings will be empty, programs under enrolled, and unit costs higher.

Such a variable situation leaves a state with difficult choices. Constructing new buildings and creating new programs at expanding campuses

requires more state revenues. The imposition of enrollment ceilings and attempts to redirect students requires reversing the basic assumption that students can select particular campuses on a social demand basis. Factors influencing student choice are difficult to discover and even more difficult to control. If additional state funds are not provided and campuses losing students are not made more attractive, enrollments must be limited, reducing access, or the costs of programs reduced, affecting quality.

Declines in enrollments in the 1980s will put institutions in an economic "Catch 22" situation. They will face trade-offs between maintaining enrollment levels and reducing the quality of their students or maintaining student quality and incurring higher per student costs. Institutions with quality attract better students and faculty and maintain favorable reputations. However, funding has been heavily based on the number of students served and tightening admissions criteria in the face of greater competition for students will take a rare form of courage. The tendency will be to pass these difficult decisions on to state officials and the state incentive will be to intervene to curb deterioration of quality and the excesses of unregulated competition. Difficult decisions will be required to assess the benefits of letting the market place work its will in contrast to more vigorous state planning, coordination, and regulation.

Research has been done on factors which affect enrollments such as student costs (Jackson and Weathersby, 1975). Unemployment levels are also expected to affect enrollments but research in this area is sketchy. Corazzini, Dugan and Grabowski (1972) represents an attempt to determine more broadly factors which affect enrollment levels. Most of the research on the consequences of enrollment declines has resulted from policy studies by state higher education agencies.

One of the most thorough of these studies was sponsored by the California Postsecondary Education Commission (Bowen and Glenny, 1980). At a more theoretical or general level, the impact of enrollment decline in higher education has been explored by Bailey (1975), Boulding (1975), Bowen (1974), Forrester (1976), Morrison (1976) and March (1974 and 1980).

Participation Trends. Changing participation (college-going) trends pose a number of significant problems for states and institutions. One is the instability of the trends. As trends change, will unnecessary facilities be built or located at the wrong campuses? Will the right kinds of facilities be provided to meet emerging needs?

By Sex. Female enrollment is rapidly increasing. How much of this increase, however, represents meeting persistent needs of women resulting from fundamental alterations in their role expectations and their consequent needs for higher education? Does part of the increase represent the assimilation of a past backlog of unmet needs with a decline in participation coming once the backlog is eliminated? Is part of the increased participation rate the result of transitory social fashions which will fade as historic conflicts between the roles of mother and that of wage earner become more apparent? Because women make up 51.2 percent of the population, the answer to these questions will have a significant impact on enrollment levels and revenues.

By Race. The number and percent of Blacks enrolling in postsecondary education stopped growing in 1979. Yet, Blacks make up an increasing proportion of the population. Blacks, Chicanos and Indians are also disproportionately represented in lower-income strata and family income correlates positively with participation in higher education. National and state policies are likely

to be influential in determining enrollment rates from low-income families. Financial aid programs, remedial programs, and efforts to limit tuition could make a difference.

By Age. The data on student participation by age categories have particular significance for postsecondary education finance. Yet national data in this area are highly inadequate. Major efforts are needed to remedy this deficiency. Many college leaders look to an influx of older students to rescue the institutions from declines in the numbers of high-school graduates.

Some factors are acting to increase the number of older students likely to enroll in postsecondary education, but they seem unlikely to make up for losses of 18-22 year olds. First, the number and proportion of adults in the population is increasing as those born during the post-World War II baby boom become adults. Second, many occupations increasingly require in-service training courses. Third, the growing popularity of the concepts of post-secondary and recurrent education may be making it more socially acceptable for older students to attend classes with their juniors. Fourth, some suspect that students who drop out of college more frequently return later than was true in the past. Also, California and Maryland data show increasing numbers of four-year college graduates returning to two-year schools to take occupational programs. Fifth, a large proportion of enrolled females are part-time students and thus appear to be older women returning for career preparation after raising their families, getting a divorce, or finding that a second salary is needed to meet family economic aspirations. Total female labor force participation rates have increased steadily and reached 47 percent in 1976. Single females had a 59 percent rate and married females had a 45 percent rate (U.S. Department of Labor 1977d-Table B-2 and Table 4-2).

Sixth, older adults may enroll more frequently when they previously have had some higher education. Finally, when economic conditions are adverse, education may make persons more competitive in the marketplace and, while seeking jobs, remain enrolled in college.

Much better data are needed on enrollment trends by age categories. Research is needed on factors which influence adult enrollments. Since many adults are employed, or have ties to a particular location, it seems clear that they more frequently will be part-time students and will tend to patronize institutions within commuting distance of their homes. The net effect of these factors will have profound implications for institutional enrollments and the revenues needed in coming years.

By Part-Time Students. The growth in the numbers of part-time students seems likely to continue. Part-time students, regardless of age, tend to enroll in nearby institutions. The strongest predictor of a student's choice of an institution is its proximity. This trend, along with a possible increase in adult students, could reduce the residential proportion of enrollment at some campuses. It suggests a careful examination of plans for dormitories and other auxiliary facilities which primarily serve residential students. This trend toward increased part-time enrollments has profound implications for institutions that have imported students from beyond their regions in the past and that have relied mainly on enrolling recent high-school graduates. Unless such institutions are highly competitive, they will likely suffer serious enrollment declines. Studies are needed on the costs of educating part-time students in contrast to those attending full time. If there is a difference in costs, then the trend toward part-time students will significantly affect future revenue requirements.

By Income Level. Data are available on the income levels of families of students attending higher education. However, these data are often incomplete and difficult to obtain. In general, students from disadvantaged backgrounds are one and one-half to two times less likely to enter college than those from high socio-economic backgrounds (NCES, 1977a-Table 4.15). Trends in enrollment rates by income are complicated by confusion over parent versus self-support. However, the social significance of changing participation by income level is great and more attention should be given to research in this area.

By Ability Level. Considerable data are available on participation rates of students by ability levels as measured by standardized tests. The percentage of high-ability students going on to college is substantially lower among those from low-income families than for those from families with higher incomes (NCES 1977a-Table 4.15). There is room for expanding the enrollment of higher ability students from low-income families if the complicated application for student aid programs are simplified and tuition and fees maintained at or below current levels. However, in view of the financial squeeze affecting institutions and the complications of altering student aid programs, little improvement in low-income student participation seems likely. In fact, the current economic circumstances appear likely to lead to tuition increases with opposite effects. An analysis of studies on the effects of tuition increases on attendance by Jackson and Weathersby (1975) indicated that for each $100 increase in tuition, enrollment rates fell from between .06 to 1.9 percentage points. Only a major national effort to identify and enroll high-ability students from low-income families seems likely to increase their participation rates. Research on the relationships between tuition increases, enrollment, and ability is required.

By Type of Program. The trend toward fewer required courses accelerated during the 1960s and particular fields of study gained or lost enrollment as different disciplines became identified with emerging social concerns and as employment opportunities changed. During a period of growing enrollments, these shifts were not difficult to manage, as all programs grew but at different rates. As enrollments decline, shifts among programs require more difficult adjustments. Institutions are left with excess faculty and facilities in some areas, while other areas are understaffed and located in cramped quarters. Adjusting faculty imbalances usually takes time and a realistic view of priorities. Rapid adjustments create heavy academic costs. A campus may have excess education faculty and lack faculty in engineering. Similarly, a campus may have excess general classroom space but lack laboratory space needed for an expanding scientific field. Current budget formulas generally do not recognize the problems and the adjustments necessary to maintain quality during periods of stable or declining enrollment.

By Type of Institution. Many of the trends noted have differential effects on enrollments at major universities, four-year colleges, and two-year colleges. They, also, have different effects on the growth of the public, independent, and noncollegiate sectors of postsecondary education. The two-year institutions appear to be profiting most from current trends. They are located close to potential students, have a tradition of serving older students, are geared to part-time enrollments, generally are less expensive, and have shown an ability to adjust quickly to new demands.

The state colleges and four year Carnegie Class II private colleges generally have relied most heavily on recent high-school graduates, full-time residential students, on-campus course offerings, and liberal arts programs.

Many of these institutions now try to attract older, part-time students and offer programs off campus. They also develop more career-oriented programs in addition to their traditional general education and liberal arts programs. They need to explore more thoroughly possibilities for articulating their occupational programs with the technical programs provided by the two-year institutions. Berdahl (1977) noted, a clear concept of the mission of these state four-year colleges has yet to fully emerge. Consequently, they appear likely to suffer most when enrollments decline. This conclusion may also apply to the private colleges as they become more like the public ones in program.

The major universities typically are the prestige institutions in their states. This gives them some competitive advantage in attracting students. In addition, they can attract students away from other institutions by lowering admission standards, a likely temptation. Graduate faculties are reluctant to admit part-time students, feeling that to do so lowers the quality of graduate programs. This reluctance reduces the number of older students they attract. Also many universities show a reluctance to locate programs off their campuses. This leads to establishing non-traditional programs and to an entrepreneurial group of institutions which take their programs into other states, thus filling this void. As enrollments decline, universities will more likely view favorably part-time graduate students and off-campus programs. The public universities are less likely to contract than are the four-year colleges. The major danger universities face is relatively lower funding if budgets do not fully recognize the full range of university functions and the full costs of graduate programs and research.

The shift of students among public campuses needs far more attention than it has received if states are to avoid becoming saddled with unneeded

plant and consequently higher average costs per student. This problem will be compounded by the increasing costs of energy. States can ill afford to heat and maintain unneeded space. Some attention should be given to the feasibility of alternative uses and of "moth balling" buildings.

By The Public, Independent, and Proprietary Sectors. Independent institutions generally have been more oriented to residential full-time students, who will become relatively scarce. The smaller, underendowed liberal arts collegs particularly will bear the brunt of enrollment declines. The plight of these institutions has been described by Shulman (1972, 1974), Benezet (1976), Minter and Bowen (1977), Cheit (1971, 1973), and Froomkin (1977).

Many independent colleges are now changing substantial numbers of their programs from the traditional liberal arts to those that are occupationally oriented. This, however, results in less distinctive missions, and they must compete with public institutions on the basis of cost of attendance. The private institutions are not likely to survive easily such direct cost competition; they have to sell a special kind of education that students believe warrants the added cost.

A number of independent institutions seem likely to go out of existence. Legislators faced with a choice between the survival of public and independent institutions find it easier for the marketplace to take its toll of independents without action on their part than to take the overt act of merging or withdrawing support from public institutions. A few independent institutions facing financial disaster may, as in the past, persuade legislatures to make them public institutions, usually adding unneeded capacity to the public system and further jeopardizing the survival of other private institutions. All will continue to seek increased public aid, some of it going

to marginal institutions, again decreasing the revenues available to maintain the viability of less afflicted institutions. Additional aid going to the independent institutions will come out of the total state funds potentially available for higher education and, consequently, will reduce the funds available for public institutions.

Little is known about enrollment trends in the proprietary institutions. Much better data are needed regarding these institutions. They appear to appeal to students who want specific knowledge or skills but do not wish to take the general educational requirements of collegiate institutions. As a result of the trend to incorporate these institutions into the broader definition of postsecondary education, more attention is being paid to potential duplication of their programs by nearby public institutions, especially community colleges, particularly as the noncollegiate institutions obtain public support through laws making their students eligible for public financial aid.

Faculty Trends. The large supply of available faculty is likely to continue to depress faculty salary levels and to stimulate unionization. Well-managed institutions who maintain some turnover will be able to obtain outstanding young scholars. Lack of growth will slow promotions and transfers, perhaps leading to a more conservative and less widely experienced faculty. Restrictions on travel funds may further lessen faculty members' opportunity for exposure and growth. Outstanding faculty may be tempted to seek employment in government and private enterprise with greater financial rewards and advancement opportunities.

The circumstances described above may encourage faculties to increase the number of required subjects, particularly in the liberal arts. A variety

of approaches to faculty development will be tried to assist in moving faculty out of under-enrolled disciplines. A good deal of pressure will be exerted to make promotions from within campuses. The faculty will examine very closely the "administrative overhead" at campuses, while administrators will face an expanding workload as a result of the problems of contraction and dealing with increasing external examination.

Economic Trends. Long-term economic trends are difficult to perceive and short-term trends often are confused with more lasting changes. Forrester (1976) explored the impact of fundamental long-range economic trends on higher education. Much is being written on the shift of population and economic growth to the "sun belt" (Business Week, 1976). Surveys are being made of the fiscal circumstances of state and local governments (Joint Economic Committee, 1975). Bowen (1974) and Millet (1975) have examined higher education as a service industry and suggested that there will be continuing expansion of this sector of the economy. Folger (1977) described the impact trends are expected to have on higher education finance.

An issue for higher education which can be distilled from current analyses and predictions concerns whether our economy will continue to expand, increase real income, and, if so, at what rate. The major difficulty is the increasing costs of housing, energy, and natural resources. If these basic commodities begin to absorb a larger portion of income, less will be left for public services, including education. As the nation grows we increasingly face many forms of pollution. Protecting the environment may absorb increasing amounts of revenues and further divert funds from education.

Another factor affecting long-term prospects is the status of our competitive advantage in international trade. In recent years, we have seen

multi-national U.S. corporations decide on whether to locate factories in Singapore, Korea, or Mexico rather than in the United States. Furthermore, the depletion of U.S. oil reserves and the need for increasing imports could have an adverse effect on economic growth.

Another factor influencing long-term economic prospects is the bulge in the population now being assimilated in the work force, later on to be cared for in retirement by a relatively smaller group of wage earners. As noted earlier, an increasing proportion of personal income is being expended in the public sector. Within the public sector, however, retirement and other programs take up an increasing percentage of the available revenues, partly the result of an aging population. To some extent, however, declining enrollments will reduce or level the need for public expenditures for higher education.

The anticipation of fiscal stringency is causing state government to examine the productivity of higher education and its economic benefits. The problems of measuring and increasing academic productivity has been most comprehensively reviewed by Wallhaus (1975). The chapter in his book by Messinger, Purves and Schmidtlein focuses particularly on the state role in efforts to increase academic productivity. The most comprehensive review of the benefits of higher education, both economic and social, has been conducted by Bowen (1977).

Social Trends. In a sense, higher education's priority has been a victim of its own success. The proportion of people attending institutions has increased dramatically. Consequently, institutions appear to have lost their mystique, becoming more vulnerable to the types of criticism often leveled at elementary and secondary schools. Furthermore, a higher degree no longer assures the same possibilities for upward social mobility that it

did in the past. The gap is narrowing between the salaries of college graduates and those without a baccalaureate degree. The growing familiarity of the public with higher education, together with its diminished role as a conveyer of social status no doubt will adversely affect its funding competition with other state programs.

Generally, in the past a substantial demand existed for almost all degree holders produced by our institutions. This is no longer so. The occupations that traditionally required college degree preparation frequently have surplus applicants. Students with expectations of finding the traditional forms of employment reserved for holders of degrees are being disappointed. Furthermore, the field of education itself is a prime example of an area with an oversupply of trained manpower. As noted, the supply of doctorates in many fields exceeds the demand for the foreseeable future. Students of manpower economics debate some assumptions made about the levels of education needed by an advanced society. Scholars such as Freeman (1976) contend that we are educating a larger proportion of our society than needed, and to this concept Bird (1975) agrees. On the other side of the issue, Bowen (1977) argues that a higher education is not oriented solely toward increasing one's income, that there are other equally important social and noneconomic benefits.

Contemporary Trends and the Goals of Postsecondary Education. Four broad goals can be identified for postsecondary education. These goals are access, diversity, quality, and economy. Access involves the ability of students, who have differing needs and come from a variety of socio-economic backgrounds, to get the best available postsecondary education consistent with their abilities and interests. Diversity ensures that a sufficient variety of institutions and programs are available to meet the legitimate

needs of prospective students. Quality concerns the ability of students, the effectiveness of programs, the characteristics of faculty, and the characteristics of facilities and technologies available for instructional programs. Economy concerns how effectively and efficiently the other three goals are achieved seeking the appropriate trade-offs between the other goals and the required resources. Each of these four goals of postsecondary education is affected in a variety of ways by the trends discussed above. A few likely impacts of these trends are related for each of these goals.

Access. The coming challenge to access is to provide programs when increasing numbers of students are available, many part-time and older students. Institutions will have considerable incentive to develop programs for older students and part-time students. States will, however, insist on careful definitions of these courses in order to serve vocational and academic goals in contrast to avocational goals.

The increasing cost squeeze on institutions will lead to increases in tuition as institutions try to avoid program reductions with attendant layoffs and transfers of faculty. As tuitions increase, lower- and middle-income students will find access more difficult and some will not enroll in postsecondary education. Efforts are now made to offset these higher costs by increasing the funding of student financial aid. However, at present, procedures for utilizing financial aid programs are complex and the programs poorly coordinated; thus such aid may not fully offset the effects of tuition increases. The simplification and state/federal coordination of student aid programs should be major goals.

Another barrier to access could be enrollment ceilings on programs or institutions. State agencies may impose these to assure a more even student flow. These ceilings are intended to: 1) reduce budgets to cope with revenue

declines, 2) lead institutions toward becoming more selective in enrollments, 3) balance enrollment increases and decreases across institutions, and 4) give greater predictability to budgetary requirements. These ceilings are not imposed with the conscious purpose of limiting access but, unless they are set very carefully and coordinated with efforts to build quality in declining institutions, that could be the effect.

Diversity. The growth in the number of institutions will be small over the next 15 years. Enrollment declines will eliminate the most important justification for new institutions. Some new ones will be aimed at new and innovative programs and a few will result from population shifts to the South and West to complete state systems of community colleges.

A number of institutions are likely to close, especially private institutions. Legislators faced with the prospect of closing a public institution are unlikely to resist the political demands for its survival unless an institution becomes so hopelessly marginal that almost nothing can be done to maintain it. Public four-year colleges and universities will be squeezed on one side by the growing and widely distributed community colleges and on the other side by prestigious universities. These colleges will have to make strenuous efforts to define clearly their role, to articulate their programs more closely with the community colleges and research universities, and to identify themselves closely with regional concerns.

Programs in popular areas such as business administration are likely to proliferate and lose quality unless checked by state higher education agencies as part of their accreditation and program review functions. The number of institutions attempting to offer off-campus programs may continue to increase unless states succeed in ensuring quality. The independent

institutions also will be under heavy pressure to offer programs which attract enrollments. They could endanger their uniqueness and increase their vulnerability over the long run. These institutions face the critical dilemma of either increasing program quality to lure students, or cutting costs and probably programs, in order to avoid extraordinary tuition increases.

Quality. Current trends will affect the quality of students in some institutions, the quality of programs, the quality of faculty, the support given research, the quality of administration, and amount of student support services. Fear of declining enrollments may restrain institutions which wish to become selective.

The difficulties of shifting resources among programs within an institution tends to reduce program quality since under-enrolled programs absorb funds which otherwise could be diverted to expanding or innovative programs. Attempts to improve quality may begin to get more visibility as quality becomes an important basis for budget justifications. Courses not popular with students will have a difficult time attracting resources. Unemployment and later in the 1990s a labor shortage will continue to place a premium on career-oriented curricula to the detriment of the liberal arts. Research will be particularly vulnerable to budgetary stringency.

The quality of the faculty also may decline as members move less frequently between institutions as travel monies wane, reducing exposure to new ideas and to changes taking place on other campuses. The average age of faculty will increase, leading to conservatism and pressures to promote from within.

The continued demand for data and the regulation of institutions will increase costs of administration. Incentives for institutional change seem

likely to come from external agencies, particularly state higher education agencies. Institutions will find it politically difficult to make internal shifts of resources, causing legislators and governors increasingly to demand that state higher education agencies set priorities and initiate changes to achieve them. The physical plants and libraries at campuses could deteriorate unless firm steps are taken to maintain their support. State-level agencies may force these allocations because institutions will be under heavy pressure to maintain tenured faculties to the detriment of quality of support services of all kinds.

Economy. Major diseconomies in postsecondary education will result from underutilized campuses, unneeded buildings, and underenrolled programs. Very little in the way of significant savings appears possible from greater managerial efficiency or technological advances. Major inefficiencies will result from political impediments inherent in cutting back and shifting resources. State legislators will be the principal agents in maintaining inefficient practices as they protect the interests of their districts and constituents. The cost of data collection and of regulation will continue to increase while inflation will consume revenue increases. The large supply of Ph.D. holders relative to demand in traditional areas of academic employment will depress academic salaries (Froomkin, 1977). However, the increasing age of the faculties will place a higher proportion of them at the top of pay scales, offsetting the savings from lower entry-level and part-time salaries. Very likely more of the costs of student services will be born directly by students as ways are sought to reduce public expenditures. The fees for such services together with tuition increases, will act to inhibit further enrollment increases.

PART III

RESEARCH NEEDS ON STATE ROLES AND MAJOR POLICY ISSUES

Part I of this paper dealt with the policy issues and research needs relating to the state level agencies, their interrelationships and the impact their actions and policies have on institutions. Part II listed some of the major trends and factors which will influence substantive state policies for postsecondary education and contains suggestions on needed policy research. Here we summarize the major issues and research needs.

THE STATE ROLE

The state role in the control, governance and support of higher education is constitutionally derived. The most important of these deal with budgets and financing, program review, planning, data systems and relationships with the federal and other state governments. Several state agencies carry out these functions through the work of professional staffs. The interrelationships of these staffs and their operational impact on higher education institutions are among the most contentious of the issues facing the state.

Agency staffs have more influence on higher education policy than anyone else in the state. Many patterns of state organization exist for oversight of higher education. More research needs to be done on the characteristics which constitute an effective state/higher education governance structure. Are the checks and balances worth the conflict and duplication they generate? Do statewide governing boards as opposed to coordinating boards adversely affect statewide planning and oversight? Since different patterns

of organization give preference to different interests and points of view, how well do current patterns adequately reflect the concerned parties? In times of financial stress, what arrangements are made for institutional flexibility? Is academic freedom affected by different governance schemes? These and additional issues affect the state role in relation to higher education and require for resolution a much more extensive and pertinent research base than now exists.

Budget and Financing. An examination needs to be made of budget formulas used for state funding of institutions. The assumptions and operating variables of formulas need to be identified and types of formulas classified. Formulas need to be analyzed to assess appropriate levels of complexity, their contribution for dealing with increasing, stable, and declining enrollments, and their flexibility to accommodate revenue fluctuations and to encourage effective management practices at institutions. Research also is needed on how state budgets treat institutionally generated resources. Concern exists that state appropriations and state "skimming" practices could reduce incentives to seek such revenues and limit their use to promote quality improvements, research, and innovations. Research also is needed on the formats and size of budget submissions to determine the trade-offs appropriate between the level of detailed data requirements and the costs of production. The length and complexity of budget justifications required by multiple state agencies may cost more than the additional contents or reviews are worth. Further research also is needed on ways to reduce the duplication in budget reviews by the several state agencies without jeopardizing necessary checks and balances.

No broad reviews have been made of state agency roles in the administration of funds appropriated to institutions. Some states, for some types of institutions, exercise detailed pre-audits of proposed individual purchases. Others exercise varying degrees of control over the flexibility institutions have to shift funds between programs and objects of expenditure. Still others require use of statewide accounting systems which may not be appropriate for higher education. Considerable controversy exists over the costs and benefits of varying types of state administrative controls.

Valuable, would be an examination of the discrete effects of long-range demographic, enrollment, economic and social changes on revenue amounts devoted to postsecondary education. Trends in the competition of all state agencies for state dollars and the effects on higher education need examination. Short-term factors such as student unrest, athletic success, scandal, scientific achievements, administrative leadership, and new schemes for financing and budgeting also could be assessed for their impact on revenue levels for particular institutions or all of higher education.

Research is needed on the relationship of student aid to tuition levels, which impede students in obtaining available aid, the distribution of all student aid by income levels, and the proportion of aid available for various objectives such as 1) equalizing opportunity (by race, sex, and income), 2) encouraging the academically talented, 3) increasing enrollments in particular specializations, and 4) serving special interests of public and private donors.

Review of Academic Programs and Institutions. Research is needed on state higher education agency roles and processes for review of academic programs. The assumptions which underly program review need to be assessed;

e.g., to what extent should states designate the locations and levels of programs in contrast to letting the academic marketplace function to control program availability and quality. The processes and strategies employed in reviews vary greatly. A comparative assessment is needed of current approaches. Issues examined should include the respective roles of state agencies and institutions, the breadth of areas covered by reviews, and the need for greater depth of analysis.

States increasingly get involved in institutional approval, accreditation, and evaluation. Research is needed to assess the proper roles and processes used by state agencies and how state agency roles supplement or contrast with the regional and other accreditation agencies and practices of the federal government. Valuable too would be research on the roles of various state agencies in program evaluation and the relationship between state agency and institutional evaluation processes. The basic assumptions underlying evaluation and accountability need examination and the compatibility of these concepts with traditional views of academic governance should be addressed.

Statewide Planning. Assessments are needed of statewide plans for higher education, the results of existing plans, their contents, and the processes and methodologies employed in their development, as well as the success of implementation of previous plans.

Role and mission statements often are highly general and of little use in making state level decisions. The contents of such statements need assessment and a taxonomy developed of factors useful in establishing differentiated institutional missions.

In some states two or more agencies engage in planning and policy studies in higher education. The number and nature of these studies need

to be described and the roles of executive, legislative, and higher education agencies, their interrelationship and overlap, need assessment. Useful would be an analysis of techniques and methodologies used for various types of studies, along with their implications. Such assessments could help states to choose better ways to research policy issues and to avoid duplication of effort.

State/Federal and Other Governmental Relationships. The states collect data pertinent to higher education operations and planning. So does the federal government. The state even administers some of the federally conceived and funded programs under federal regulations and the states join in compacts with other states to promote certain programs or services of benefit to students. A number of policy questions arise from these practices.

Federal and State Data Collection. The federal government collects information directly from over 3,000 institutions. Dealing with such a large number of respondents makes improvement of data collection costly and assessments of accuracy difficult. Recently, NCES began to use higher education agencies in some states to collect institutional data and forward it to the federal government. The states also increasingly collect data for their own purposes. Studies are needed of the data collection practices, content, and agency use by the states and the growing but not necessarily compatible federal role in data collection.

State Administration of Federal Programs. State-administered federal programs need to be contrasted with the effectiveness of federal direct administration of programs. As assessment of which programs appear effectively administered by states, decisions can be made on whether to increase or to decrease the practice. Also, support of state agency costs in administering federal programs needs similar examination.

Interstate Cooperative Arrangements. The effectiveness of inter-institutional and interstate cooperative arrangements needs reassessment and areas for greater cooperation identified.

RESEARCH NEEDS ON MAJOR POLICY ISSUES

Part II of this report provides a framework for classifying higher education policy issues which confront the states and briefly describes the nature of these issues. Within the framework of Part II the following listing of research needs attempts to identify major areas where knowledge is lacking. The areas proposed are not listed in a priority order. Indeed, priorities frequently differ among states. The total agenda would be very expensive to research adequately. NIE needs to design processes to identify priorities to support.

Enrollment Trends. The varying trends in the types of students who will attend colleges and universities provides the basis for substantial difference in enrollment impact of the different types of higher education institutions.

Older Students. Much uncertainty exists over the extent to which older students will bolster enrollments in the 1980s and 1990s. Yet data classifying students by age (except for the surveys of the Census Bureau) are not collected nationally and little definitive research has been undertaken to examine factors affecting enrollments of older students. Evidence seems to indicate that more educated persons seek even more education and that high unemployment spurs enrollment. On the other hand, the recent increase in opportunities for older students may have taken care of a backlog and demand may slacken for women as it already has for men. Little attention, also, has been given to which institutions older students attend for various purposes.

Females and Minorities. The factors underlying the increase in female enrollments need examination in order to assess the stability of the trend. It would appear that the proportion of men has already leveled off. Blacks have become a large part of the traditional college-age population but a lesser percent graduate from high school and enroll in colleges. The impact of minority enrollment trends on total enrollments by major city and the regions needs investigation, especially for Blacks and Chicanos.

Non-Collegiate Students. Trends regarding enrollment in non-collegiate postsecondary education programs have not been examined sufficiently. This area includes education or training in proprietary schools, industry, government, trade unions, and social organizations. Such enrollments are rapidly increasing. The reasons for this increase need to be examined and their implications for enrollment, program and teaching technologies for collegiate institutions explored.

Enrollment Shifts among Segments and Regions. The changing composition of student bodies and migration patterns have different effects on the various segments of higher education. Research is needed to help predict the effects of changes on various types of public institutions: Community colleges, state universities and colleges, and major graduate research institutions. As well, the effects of enrollment trends on independent institutions must be analyzed. Similarly, studies are needed to determine whether rural institutions, which cannot rely on part-time students and faculty, will be extraordinarily affected and, if so, what measures states should take to deal with the problems of access and quality.

Trend Effects on Access. The trends affecting higher education, particularly economic stringency, could have an adverse effect on enrollment

by students from low-income families. Better data are needed on the direction of trends to assure that qualified students are not denied access because of economic circumstances. In addition, funds provide a portion of student financial aid to highly qualified students regardless of their economic need. This trend, along with the support for middle-income groups, needs to be monitored and effects assessed on low-income groups, rates of college attendance, and the distribution of such funds among the several types of institutions.

Enrollment Shifts Among Programs. Data are available on enrollment shifts among academic programs. However, little study is done on how institutions risk the quality of programs when program enrollments suddenly increase -- by enlarging class size, hiring part-time faculty, and straining student services? To what extent do institutions limit access in order to maintain ratios of full-time faculty and adequate program quality? What are the implications of enrollment limitations on student equity on one hand and smoothing annual fluctuations on the other? Should institutions be encouraged to respond more slowly to meet what may be current fads, even when doing so may cause enrollment declines? Research is needed on the practices of institutions and the implications of these practices.

Faculty Trends. Institutions seek by many means to maintain and enhance their faculties during a period of stability or contraction. Means include seeking funds for faculty development, examining retirement and tenure plans, and projecting turnover rates. Institutions are centralizing control of vacancies and examining procedures for staff reductions. Research is needed to identify and to evaluate trends which are taking place and how institutions respond and set priorities. The variety of responses and their effectiveness need investigation.

Economic Trends. Research is needed on the cumulative effect that economic trends have on higher education. An examination should be made of the appropriations to state services competing with higher education in order to get a clearer view of the "squeeze" on state revenues for higher education during the next two decades.

Further research is also needed to assess how institutions react to financial stringency and suggest policies to avoid some problems. For example, there is evidence that institutions defer maintenance and purchases, reduce support services, lay off nontenured staff, and cut travel in order to maintain tenured faculty and the total instructional program. Such short-term actions have very serious consequences, if continued, by creating costly backlogs of expenditures needed to retain quality.

Further study also is needed of the impact of energy costs on institutions and students. How do institutions conserve energy, with what net cost savings? What effect is the increasing cost of gasoline having on the enrollments of commuting students and the types of institutions that they attend?

Research is needed on the trends in who supports higher education. Will growing support for independent institutions lead to increasing public controls? If so, what will distinguish them from public institutions? Federal support for students has rapidly increased in recent years. Has this approach to federal aid been worth its administrative costs in terms of maintaining institutional independence? What are the net dollers of student financial aid which go for academic rather than personal support services? Does student financial aid really increase the college attendance rates of each socio-economic group to which it is directed?

Social Trends. Very little is known about the social trends which affect the value the public places on higher education. Much current information takes the form of opinion polls which rank perceptions of various social services or confidence in various social institutions. Other evidence is indirect, such as the current attacks on the need for higher education. Little systematic attention has been given to determining the contributions higher education makes to important state and national goals. Higher education needs a set of "indicators" which will help it to measure shifts in its social priority and provide means to analyze the reasons for these shifts.

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